

## ABSTRACT OF THE INVENTION

A method and apparatus for selectively providing bandwidth extension and channel matching for acquired signals under test (SUT). The method and apparatus includes a signal acquisition device for acquiring a signal under test  
5 (SUT) and generating therefrom a stream of acquired samples, where the signal acquisition device having associated with it a first bandwidth defining a nominal pass band. At least one digital filter imparts a gain equalization function to the acquired SUT samples within a spectral region including and extending beyond the nominal passband. A controller generates a display signal suitable for use  
10 by a display device, where the display signal representing waveform imagery associated with the gain equalized SUT.